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IN THE

# Supreme Court of the United States

OCTOBER TERM, 1970

No. ~~1695~~ 70-158

INJECT-O-METER MANUFACTURING COMPANY, INC.,
*Appellant-Petitioner,*

*vs.*

NORTH PLAINS FERTILIZER AND CHEMICAL, INC.,
*Defendant-Appellee,*

## PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT

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IN THE

# Supreme Court of the United States

OCTOBER TERM, 1970

No._____

INJECT-O-METER MANUFACTURING COMPANY, INC.,
*Appellant-Petitioner*

*Vs.*

NORTH PLAINS FERTILIZER AND CHEMICAL, INC.,
*Defendant-Appellee.*

## PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FIFTH CIRCUIT.

*To the Honorable Chief Justice and Associate Justices of the Supreme Court of the United States:*

Your petitioner, Inject-O-Meter Manufacturing Co. Inc., (Plaintiff and Appellant below), hereby petitions that a Writ of Certiori issue to review the judgment of the United States Court of Appeals for the Fifth Circuit in the above action dated March 3, 1971, rehearing denied March 31, 1971, affirming the decision of the United States District Court for the Northern District of Texas, Amarillo Division.

## OPINIONS BELOW

Fifth Circuit is reported at_____ F.2d_____(1971) (169 USPQ 70) and appears as Appendix C (A5-A20) to this petition. In this opinion Inject-O-Meter (IOM) Patent 3,236, 232 for an apparatus was held valid and further affirmed the lower court's finding of non-infringement. In this opinion IOM Patent 3,375,976 directed to process of operation was held invalid and thereby obviated its inquiry into infringement.

The decision of the District Court, Northern District of Texas, Amarillo, Division, is reported at 308 FSupp 538, 164 USPQ 653 and appears as Appendix B (A21-A30).

The judgment of the Court of Appeals for the Fifth Circuit was entered on March 3, 1971, (Appendix A, A-1) and a timely petition for rehearing was filed and an order denying the Petition for Rehearing was entered on March 31, 1971. (Appendix B, A-3).

## JURISDICTION.

The jurisdiction of this Court is invoked under 28 U. S. C. Sec. 1251(1). The federal jurisdiction of the District Court was based on 28 U. S. C. 1338.

As herinafter appears, the Supreme Court has consistently exercised jurisdiction in cases such as this where a Court of Appeals has decided a federal question in conflict with requirements directed by this Court to be strictly applied thereto, especially when said one Court of Appeals has decided such federal question in conflict with such requirements therefor, and where such requirements are applied by several other Circuit Courts of Appeals and such one Court of Appeals applies other rules on such federal question contrary to the rules of other Court of Appeals in regard thereto; so that there are conflicts of application of these rules on such federal question by the different United

States Circuit Courts, whereby standards of patentability differ. Uniformity of federal patent laws are destroyed thereby and such lack of uniformity encourages "forum shopping" amongst the litigants of patents and creates unnecessary burden upon this Court. Supreme Court Rule 19(1)(b).

## QUESTIONS PRESENTED.

### I.

Can a Court of Appeals for the Fifth Circuit fail to observe the requirement of factual inquiry as to level of ordinary skill in the pertinent art for determining obviousness, laid down by the Supreme Court in its (1966) pronouncements, in Graham v. John Deere 383 U. S. 1 and as followed by the respective Courts of Appeals for the Second Circuit, the Sixth Circuit, the Seventh Circuit and the Ninth Circuit, and sua sponte declare the Inject-O-Meter process patent No. 3,375,976 invalid as obvious under 35 USC 103 when deposition testimony in chorus evidenced that those mechanically skilled in the art and highly expert in the field did not recognize the desirability of use of substantial (over 20 p.s.i.) pressure drop through an adjustable orifice?

### II.

Can a prior Harrison publication be used as anticipation to void Inject-O-Meter patent No. 3,375,976 under 35 USC 102(b) when the disclosures in the Harrison publication do not show or teach features set out in Inject-O-Meter claims of,

(a) adjustable orifice, and
(b) at least 20 p.s.i. pressure drop across the adjustable orifice by the fertilizer solution?

## STATUTORY PROVISIONS INVOLVED.

Question I involves 35 U.S.C.§103. Question II involves 35 U.S.C.§102(b).

35 U. S. C.§102(b):

*Conditions for patentability; novelty and loss of right to patent*

A person shall be entitled to a patent unless . . .

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

35 U. S. C.§103:

*Conditions for patentability; non-obvious subject matter*

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, 1, 66 Stat. 798.

Supreme Court Rule 19(1) (b):

"Considerations Governing Review on Certiorari

"1. . . . The following, while neither controlling nor fully measuring the court's discretion, indicate the character of reasons which will be considered"

* * *

"(b) Where a court of appeals . . . has decided a federal question in a way in conflict with applicable decisions of this court; . . . "

## STATEMENT OF THE CASE

### Introduction

Inject-O-Meter Manufacturing Company, Inc., a New Mexico corporation, (IOM( as owner by assignment of U.S. Patents No. 3,326,232 issued June 20, 1967, and No. 3,375,976 issued April 2, 1968, from Stamps and Neikirk, the inventors, brought two separate suits against North Plains Fertilizer and Chemical, Inc., a Texas corporation (NORPAK) for infringement of those patents. These two suits were consolidated. The inventions disclosed a new and useful apparatus for and a new and useful process of applying chemical fertilizers by combination of a high pressure pump system with an irrigation apparatus and effecting application of such fertilizers to farm land at a substantially constant weight of fertilizer per unit area of land at any of several desired levels of intensity. These inventions permitted the commercially successful injection of liquid fertilizer into traveling sprinkler irrigation apparatus, resulting in great economic benefit to large scale farming.

The inventors combined old elements in a manner not heretofore taught in the art of manufacturing apparatus for and process of applying liquid fertilizer through irrigation systems; this was accomplished by their inventive discovery of creating a significant pressure drop of over 20 p.s.i. in the discharge line from the fertilizer injection pump to the well pump discharge line. This deliberate creation of significant pressure drop is contrary to the prior art teaching and prior engineering concepts in this field.

NORPAK had for some time been experimenting with methods for applying liquid fertilizer into irrigation apparatus and specifically made apparatus as disclosed in Harrison literature (which, in varying portions, are relied upon by the District Court and by the Court of Appeals for the Fifth Circuit to invalidate the patent on grounds of

anticipation and obviousness) and found it did not work for moving sprinkler irrigating systems.

NORPAK fertilizer injecting machines were being used only for gravity flow process. After disclosure by IOM of use of over 20 p.s.i. pressure drop through an adjustable orifice to successfully inject the fertilizer into the main irrigation water line for moving sprinklers, NORPAK installed in their system a specially ordered inline relief valve which functioned to duplicate the IOM process. NORPAK falsely represents their use of inline relief valve in its system by calling it a "check valve"; even the diagram presented to, and referred to by, the Court of Appeals (A19) is so falsely identified. The supplier of inline relief valve testified he knew no instances where inline relief valve had been sold for use as check valve.

The District Court disregarded technical data on inline relief valves and test data proving that the inline relief valve used by NORPAK did have over 20 p.s.i. pressure drop through its orifice and concluded that IOM method was anticipated by Harrison text and took judicial notice of fact contrary to laws of nature in holding the invention anticipated by Harrison Figure 1 and another portion of the Harrison publication (A-8) to grant summary judgment in favor of NORPAK.

On appeal, the Court of Appeals for the Fifth Circuit affirmed with regard to the invalidity of patent 3,375,976 on that another portion of the Harrison publication (A-8) adding the ground of obviousness.

The Court disregarded the testimony of the expert in the field, the author of the alleged anticipatory literature, that the purpose in engineering of such fertilizer injection system was to avoid pressure drops and disregarded evidence that those skilled in the art had tried unsuccessfully to solve the problem. Instead of applying these facts, the Court of Appeals for the Fifth Circuit substituted its own opinion of what would be obvious,

## QUESTION I

In declaring the IOM Patent invalid on grounds of being obvious under 35 USC §103, the Court of Appeals for the Fifth Circuit did not apply the requirements laid down by the Supreme Court in Graham v. John Deere, 383 U.S. 1 at 17 (1966):

> " . . . the §103 condition . . . lends itself to several basic factual inquiries, under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined . . . . "
>
> And further, the Supreme Court stated:
>
> "We admonished that 'strict observance' of those requirements is necessary. Id. at 18, 148 USPQ at 467." Anderson's-Black Rock, Inc. v. Pavement Salvage Co. 396 U.S. 57 at 62, 163 USPQ 673 at 675.

The Court of Appeals for the Ninth Circuit observes this requirement:

> "The trier of facts must inquire into several basic factual questions" Northrop Architectural Systems v. Lupton Mfg. Co. St., 437 F.2d 889, (1971) at 891, 168 USPQ 623 at 624.

The Court of Appeals for the Seventh Circuit observes this requirement at United States Gypsum Company v. National Gypsum Co. et al,_____F.2d_____, decided March 11, 1971 (CA7) 169 USPQ 135 at 138; Illinois Tool Works, Inc. v. Sweetheart Plastics, Inc._____F.2d_____, decided Jan. 21, 1971, 168 USPQ 451 (at 454, 456).

The Court of Appeals for the Sixth Circuit observes this requirement. H. K. Porter Co., Inc. v. The Goodyear Tire & Rubber Co._____F.2d_____, decided Jan. 27, 1971, 168 USPQ

449 at 451.

The Court of Appeals for the Second Circuit observes this requirement:

> "The ultimate question of obviousness is one of law to be determined after several factual inquiries have been made. As the Supreme Court has recently stated:
>
> [1] the scope and content of the prior art are to be determined; [2] differences between the prior art and the claims at issue are to be ascertained; and [3] the level of ordinary skill in the pertinent art resolved. Against this [factual] background, the obviousness or nonobviousness of the subject matter is determined. Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966)."
>
> Shaw et al v. E. B. and A. C. Whiting, 417 F.2d 1097 at 1102 (CA 2), 163 USPQ 580, 584 (1969).

The Court of Appeals for the Fifth Circuit did not observe this requirement of inquiry into the factual issues. Rather, the Court of Appeals for the Fifth Circuit stated that the differences between the claims and the prior art would have been obvious at the time the invention was made to a person having ordinary skill in the art on the basis of the following series of assumptions:

1. To recognize them (the problems solved by these improvements) was in no way inventive.
2. Once the first need (for regulatable system) is recognized the solution reached in the patent — an adjustable orifice — is readily apparent.
3. The second need — for an injection system which is insensitive to the irrigation flow rate — manifestly depends on the interrelationship of pressure levels within the system.
4. This in turn would readily suggest that the problem could

be solved by

(a) experimental manipulation of the pressure levels until

(b) a satisfactory relationship of pressures was delivered.

5. (As to) mechanical trial and error process that would . . . follow,

(a) manipulation of the relationship of:

i. the size and

ii. speed of the pump and

iii. of the relative size of the various pipe lines to

iv. the size of the opening of the throttle valve would

(b) inevitably lead to IOM's solution.

Such recital of assumptions as to hypothetical sequence of steps to lead to the patentees' solution is not a factual inquiry into the level of ordinary skill in the art as required.

> "Doubt as to validity, no matter how strong, cannot justify resort to unfounded assumptions or supply deficiencies in the factual background. Graham v. John Deere Co., supra." Shaw v. E. B. and A. C. Whiting Co., 417 F.2d 1097 at 1104, 163 USPQ 580 at 586.

Viewed after the event if the means seemed "simple" and such should have been obvious to those who worked in the field, this is not enough to negate invention. Goodyear Tire and Rubber Co., 321 U.S. 275, 279 60 USPQ 386, 388, 279, 1944; citing cases and cited in Shaw v. E. B. and A. C. Whiting Co. 417 F.2d 1097. (CA2) 163 USPQ 580 at 586.

Not only was there no support to the assumptions made to supply the deficiency of the factual background, but also all the testimony available provided, in chorus, evidence of the lack of obviousness;

(a) The author of the publication, Harrison, qualified by defendant as an expert in the field, taught that any pressure

drop across the valve in apparatus of his Figure 3 was to be a minimum. Harrison also expressed clear opinion of disbelief as to suggestion of concepts in engineering to provide the pressure drop as in patentees' process. Such testimony shows Inject-O-Meter's process step of creating a pressure drop of at least twenty pounds per square inch as called for in claim 2 of the 3,375,976 patent was clearly not obvious to him.

(b) The witness Schiller, also qualified as skilled in this art, had at the time of patentees' invention the problem of and tried several apparatuses to evenly apply fertilizer including the Dragon machine referred to in the Harrison Circular 276 without success prior to the appearance of the IOM apparatus.

(c) With the Harrison disclosure admittedly before him, and directing his efforts to the problem solved by the invention herein, the college-educated McNeill (President of Norpak) was unsuccessful, even after long experimentation, in achieving the solution achieved by the operation of the claims of the 3,375,976 patent prior to disclosure to him of the IOM apparatus.

Further, in view of the facts of the level of skill in the art, declaring of the process of patent No. 3,375,976 obvious on the assumption that such assumed series of steps would be obvious is,

(a) contradictory of the portion of the statute which states, "patentability shall not be negatived by the manner in which the invention was made." (35 USC 103)

and

(b) inconsistent with the statement of the Fifth Circuit Court of Appeals in regard to the apparatus embodying such process, (A-16)

"Based on the record before us strong reasons appear to support the validity of the apparatus 232 patent. See Sterner Lighting, Inc. v. Allied Electrical Supply Co., Inc., 431 F.2d 539 (5th Cir. 1970). The patent specifies a detailed solution to the problem it was intended to solve. Construed narrowly, it appears to represent the synergistic resolution of difficult technical problems not heretofore resolved and therefore 'describes a unique nonobvious solution to a problem. . .' "

Even the further resort of the Fifth Circuit Court of Appeals to supplying the deficiency of the factual background by assumption of a pump of size larger than (one skilled in the art might find) necessary followed by the sua sponte combination therewith of a throttle valve (reflected in the statement "simply by using a larger-than-necessary pump and throttling down the adjustable valve the process could be duplicated") would still not provide either,

(a) the 20 p.s.i. pressure drop called for in patent claim 2,

or

(b) definite location of the throttle valve on the inlet or outlet side of the pump,

or

(c) operation of the pump at a predetermined rate, to provide a sufficiently high liquid pressure that, on reduction thereof by the valve, to still be in excess of the range of variation of the pressure of the stream into which to be injected,

and accordingly even such resort to assumption would not be in such full clear and exact terms as to enable any person skilled in the art to which it relates to practice the invention. Strong v. General Electric Co.____ F.2d____ 5th Cir. 1970. Eames v. Andrews 122 U. S. 40 at 64-66.

Such recital of assumptions as to hypothetical sequence of

steps failing to lead to the patentee's solution is, further, not a factual inquiry into the level of ordinary skill in the art as required, as well as contradicted by deposition record of those skilled in the art.

The challenge to the presumption of validity of the process patent 3,375,976 on basis of the Harrison publication presented by the defendant as being not before the Patent Office is weakened by the record of similar art in the record of the apparatus application of which the process patent in suit is a continuation-in-part.

Figure 2 of that German Patent Appendix E hereto (A31) has a disclosure substantially the same as that of Figure 1 of Circular 276 shown in Appendix F (A32) on which the District Court relied and that German Patent (Perrot 1,045,203) of record shows at Figure 4 all elements of the Harrison Figure 2 relied on by the Court of Appeals (shown as Figure 3 of the Court's decision (A-20) except for the cutoff valve: however, according to the testimony of Harrison, there was to be no pressure drop through his cutoff valve during operation; accordingly, the Figure 2 of the Harrison brochure on which the Court of Appeals relies for lack of obviousness shows no substantial element which was not considered by the Patent Office.

Such art cited on behalf of NORPAK is no more pertinent than the German Patent of record in the parent case and should not disturb the validity of the patent.

Prior art patents cited in consideration of parent application are deemed to have been considered, though not cited on continuation application on which patent issued;

United States Gypsum Company v. National Gypsum Company et al. No. 17613, Decided March 11, 1971, Court of Appeals, Seventh Circuit, ____ F.2d ____, 169 USPQ 135; citing Otto v. Koppers Company, Inc., et al 246 F2d 789; 114 USPQ 188, 198, Metal Arts v. Fuller Company, 389 F2d 318 (CA 5), 156 USPQ 605,608.

## QUESTION II

The Court of Appeals cites a portion of the publication Harrison, Circular 276: (A 8)

This disclosure does not teach either passing the liquid fertilizer through an adjustable orifice, or any adjustable orifice as called for in claim 1 or a pressure drop of at least 20 pounds per square inch across the adjustable orifice as called for in claim 2 so that neither referent proposed by the Court of Appeals for the word "line" would provide the components for the steps of claim 2 of the process patent 3,375,976 and so such disclosure of Harrison does not anticipate such claims. Claims 3 and 4 were withdrawn from suit in open court.

The apparatuses so disclosed in the cited portion (A8) show no step not already shown in U. S. Patent 2,757,047 to Friedmann (Appendix G, A33) a reference of record in the IOM process patent '976 and should not disturb the validity of the IOM patent. Metal Arts v. Fuller Company, ibid.

The court of appeals states it may be argued that the word "line" does not refer to the irrigation discharge line and, if the word "line" in the second sentence of the cited portion did refer to the line in the fertilizer injecting apparatus, the circular clearly speaks of the same process which appellant claims in his patent. While no such argument is presented, the premise for such unexpressed argument is either contradicted by the application of the word "line" in all of the figures of Bulletin 276 wherein the word "line" appears to a "main discharge line" (Figures 1, 2 and 3) or "sprinkler mainline" (Figure 4), or at least an issue of material fact in regard thereto remains, and affirmance of the lower court's summary judgment is erroneous.

Further, even if the word "line" did mean the conduit from the fertilizer tank to the main irrigation line as well as if the word "line" referred to the main discharge line, such

disclosure would have no teaching of an adjustable orifice, passing liquid fertilizer through such adjustable orifice or passing liquid fertilizer through an adjustable orifice with a 20 p.s.i. pressure drop as expressly claimed.

Inasmuch as the claims measure the invention (Bros. Inc. v. W. E. Grace Mfg. Co., 351F.2d 208 (CA 5) 212; 147 USPQ 1, 5, cert. den. 383 U. S. 936 and features of the claims are clearly not present in such disclosure (at A-8), the argument of the Court of Appeals that such cited portion teaches the same process as claimed by patentees is clearly erroneous and the decision based thereon should be reversed, as well as for the reason that,

> "doubt as to validity, no matter how strong cannot justify resort to unfounded assumptions or supply deficiencies in the factual background. Shaw v. E. B. and A. C. Whiting Co. 417 F2d 1097 at 1105 (1969) 163 USPQ 500 at 586."

'It has been a rule of long standing that prior printed publication in order to defeat a patent must exhibit a substantial representation of the patented invention. It must be in such full, clear and exact terms as to enable one skilled in the art to practice the patented improvement without the exercise of inventive skill of his own and without assistance from the patent claimed to have been anticipated.' 1 Deller's Walker on Patents §60 at 277-78 (2d ed. 1964); Seymour v. Osborne, 78 U. S. 516, at 554-55 (1871); Eames v. Andrews, 122 U. S. 40, at 64-66 (1886); Rich Products Corp. v. Mitchell Foods, Inc. 357 F2d 176 (CA 2) 146 USPQ 714.

Further, such rule is also applied (a) in the Sixth Circuit in Ballantyne Instruments & Electronics, Inc. v. Wagner (345 F2d 671) CA 6, 145 USPQ 408 at 410 citing Seymour v. Osborne 78 U. S. 516; Downton v. Yeager Milling Co., 108 U. S. 466; Eames v. Andrews, 122 U. S. 40, 66; Cohn v. United States Corset Co., 93 U. S. 366, and (b) in the Tenth

Circuit at McCullough Tool Co. v. Well Surveys, Inc., 343 F2d 381, 145 USPQ 6 at 19.

Facts contesting the conclusions of the District Court as to lack of infringement of the process patent by defendant are presented in Appellant's Appeal Brief at pages 26-29 and Appellant's Reply Brief at pages 10-15 wherein the District Court's conclusions of fact are shown contrary to the evidence and clearly erroneous; pages 6-10 of the Appellant's Appeal Brief also sets out facts showing material misrepresentations by defendant to the District Court and to the Court of Appeals in regard to the description of the operation of its system and its components.

## REASONS FOR GRANTING THE WRIT.

The conflict between the Court of Appeals for the Fifth Circuit and the several Courts of Appeals for the Second Circuit, for the Sixth Circuit, for the Seventh Circuit, and for the Ninth Circuit in the Fifth Circuit Court of Appeals not observing or observing strictly the requirements laid down by the Supreme Court will result in lack of uniformity and definitiveness in determing validity of patents. This tends to encourage forum shopping and will increase the burden of this Court.

If courts were permitted to disregard the factual evidence of non-obviousness to those experts in, and to those skilled in the art, and substitute their own unfounded assumptions to supply deficiencies in factual background, inventors would be discouraged and keep such discoveries to themselves. Inventive knowledge and discoveries would not be readily disseminated and the basic principles of the present patent system would no longer be preserved.

This court can require uniformity to the test of patent validity and so strengthen the patent system and encourage disclosures of inventions and discoveries to the end that progress of useful arts will be more fully promoted.

## CONCLUSION

Wherefore your petitioner prays that a Writ of Certiorari issue to the Court of Appeals for the Fifth Circuit to the end that this cause may be reviewed and determined by this Court, that the judgement of the Court of Appeals for the Fifth Circuit affirming the District Court's decision holding the IOM patent invalid and not infringed be reversed; and that your petitioner be granted such other and further relief in the premises as may be just and proper.

Respectfully submitted,

Ely Silverman,
Elsie Brown Silverman
*Attorneys for Petitioner.*

Of Counsel:

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Suite 810 Amarillo Building
Amarillo, Texas 79101

## CERTIFICATE OF SERVICE

The undersigned attorney hereby certifies that all parties required to be served have been served and that three copies of the foregoing Petition for Writ of Certiorari to the Court of Appeals for the Fifth Circuit were served upon the appellee, North Plains Fertilizer and Chemical, Inc., by forwarding said copies to:

Joe E. Edwards, Esq., and A. H. Evans, Esq., Vinson, Elkins, Searls & Connally, First City National Bank Building, Houston, Texas 77002, and three copies to Hugh T. Lyle, Esq., Lovell, Lyle & Cobb, P. O. Box 477, Dumas, Texas 79029, attorneys for North Plains Fertilizer and Chemical Inc., by depositing the same in a United States Post Office, with first class air mail postage prepaid, addressed to said counsel of record for the appellees, on this the_____day of May 1971.

Ely Silverman, Attorney for Petitioner
Inject-O-Meter Manufacturing Company, Inc.

APPENDIX A

# United States Court of Appeals

For The Fifth Circuit

October Term, 1970

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No. 29362

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D. C. Docket No. CA 2-522 and CA 2-606

INJECT-O-METER MANUFACTURING COMPANY, INC.,

*Plaintiff-Appellant,*

versus

NORTH PLAINS FERTILIZER AND CHEMICAL, INC.,

*Defendant-Appellee.*

---

*Appeal from the United States District Court for the* Northern District of Texas

Before GEWIN, MORGAN and ADAMS, Circuit Judges.

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JUDGMENT

This cause came on to be heard on the transcript of the record from the United States District Court for the Nor-

thern District of Texas, and was argued by counsel;

ON CONSIDERATION WHEREOF, It is now here ordered and adjudged by this Court that the judgment of the said District Court in this cause be, and the same is hereby, affirmed;

It is further ordered that plaintiff-appellant pay to defendant-appellee, the costs on appeal to be taxed by the Clerk of this Court.

March 3, 1971

Issued As Mandate:

APPENDIX B

IN THE

# United States Court of Appeals

FOR THE FIFTH CIRCUIT

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No. 29362

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INJECT-O-METER MANUFACTURING COMPANY, INC.,
*Plaintiff-Appellant,*

versus

NORTH PLAINS FERTILIZER AND CHEMICAL, INC.,
*Defendant-Appellee.*

---

*Appeal from the United States District Court for the Northern District of Texas*

(March 31, 1971)

ON PETITION FOR REHEARING

Before GEWIN, MORGAN and ADAMS *, Circuit Judges.

PER CURIAM:

IT IS ORDERED that the petition for rehearing filed in the above entitled and numbered cause be and the same is hereby denied

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*Of the Third Circuit, sitting by designation.

A5

IN THE

# United States Court of Appeals

FOR THE FIFTH CIRCUIT

---

No. 29362

---

**INJECT-O-METER MANUFACTURING COMPANY, INC.,**
**Plaintiff-Appellant,**

**versus**

**NORTH PLAINS FERTILIZER AND CHEMICAL, INC.,**
**Defendant-Appellee.**

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*Appeal from the United States District Court for the Northern District of Texas*

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(March 3, 1971)

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Before GEWIN, MORGAN and ADAMS*,
Circuit Judges.

GEWIN, Circuit Judge: The subject of this patent appeal is liquid fertilizer. Appellant, Inject-O-Meter Manufacturing Co. (IOM) is the owner[1] of patents for an apparatus (U.S. Patent No. 3,326,232, June 30, 1967, hereinafter apparatus 232 patent) and a related pro-

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*Of the Third Circuit, sitting by designation.

[1]The co-patentees of the patents in question are Otis C. Stamps and David W. Neikirk who assigned them to the appellant.

cess (U.S. Patent No. 3,375,976, April 2, 1968, hereinafter process 976 patent) for injecting liquid fertilizer into a crop irrigation system. (Appendix, figure 1) Appellee, North Plains Fertilizer and Chemical Co. (Norpak) has developed and marketed an unpatented device for the same purpose. (Appendix, figure 2) IOM has alleged infringement of both patents by Norpak; Norpak has in turn counterclaimed seeking a declaration that both patents are invalid. On motion for summary judgment the district court found no infringement of either patent and declared the process 976 patent invalid. We affirm.[2]

## I

### *The Process 976 Patent*

The court below declared this patent both invalid and not infringed. In accordance with the mandate of this court and the Supreme Court, we deem it appro-

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[2] In considering this case we are fully aware of the dangers of indiscriminate use of summary judgment in patent cases as well as others. Ag Pro, Inc. v. Sakraida, _____ F.2d _____ (5th Cir. 1971) [No. 29708, February 1, 1971]. However, it is our view that the evidence in this case was fully and adequately developed and that summary judgment was appropriate under the facts and in the circumstances present. Method Electronics, Inc. v. Elco Corp., 385 F.2d 138 (3d Cir. 1967); Ballantyne Instruments & Electronics, Inc. v. Wagner, 345 F.2d 671, 672 (6th Cir. 1965); Ronel Corp. v. Anchor Lock of Fla., Inc., 325 F.2d 889, 890 (5th Cir. 1963), cert. denied 377 U.S. 924 (1964). See also footnotes 21 and 23 *infra* and accompanying text. The court considered the case "upon completion of discovery", and after considering the arguments of counsel, the pleadings, answers to interrogatories, depositions, and briefs on file. We have before us the complete record as well as an appendix which contains over 500 pages.

priate, in light of the Constitution[3] and public policy[4] to consider first the issue of validity.[5] Our resolution of that issue obviates inquiry into infringement.

It is now well established that there are three statutory and constitutional requirements for a valid patent: utility, novelty, and non-obviousness.[6] The utility of IOM's device is not disputed. The court below chose to invalidate the process patent on the second of the listed grounds under 35 U.S.C. § 102(b), *i.e.* that:

> "the invention was . . . described in a printed publication . . . more than one year prior to the date of application for patent in the United States."

Although we do not choose to hold this finding of the

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[3] "The Congress shall have the power. . .
"To promote the progress of science and useful Arts, by securing for limited Time to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;"
U.S. Const. Art. I, § 8

[4] "The grant of an exclusive right to an invention was the creation of society — at odds with the inherent free nature of disclosed ideas — and was not to be freely given. Only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly."
Graham v. John Deere Co., 383 U.S. 1 (1966). See also Sinclair & Carroll Co., Inc. v. Interchemical Corp., 325 U.S. 327 (1945); Anderson's Black Rock v. Pavement Salvage Co., 396 U.S. 57 (1969); Beckman Instruments, Inc. v. Chemtronics, Inc., 428 F.2d 555 (5th Cir. 1970).

[5] Id.

[6] Graham v. John Deere, Inc., 383 U.S. 1 (1966); Beckman v. Chemtronics, Inc., 428 F.2d 555 (5th Cir. 1970); Swofford v. B & W Inc., 395 F.2d 362 (5th Cir. 1968).

district court erroneous, we note that there is some possible ambiguity in the language of the prior printed publication which the district court concluded was a disclosure of IOM's process.[7] Keeping in mind the requirement that the prior description must be "in such full, clear, and exact terms as to enable any person skilled in the art to which it relates to practice the invention,"[8] we are constrained to articulate an addi-

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[7]The publication, Harrison, *Injection of Liquid Fertilizer Materials into Irrigation Systems*, University of Florida Agricultural Extension Service, Circular 276 (1965) was published well over a year before appellant's application for the process patent. The important language is:

> At least three companies manufacture injection units which introduce fertilizer directly into the irrigation discharge line. These units, complete with tank, utilize a pressure difference in the *line* — usually between couplers, around elbow, at a reducer, or a special venturi — to force the fertilizer solution into the main line discharge pipe. (p. 6) (emphasis added).

It may be argued that the word "line" as it appears in the second sentence above does not refer to the same "line" as used in the first sentence. If the word "line" as used in the second sentence refers to the line in the fertilizer injecting apparatus (see figure 1), the circular clearly speaks of the same process which appellant claims in his patent. On the other hand, if the reference is to the main discharge line (see figure 1), then it may be argued that the process described may not be sufficiently similar to IOM's process 976 patent to anticipate it. Even if it is arguable that an ambiguity does exist, it is not necessary for us to disturb the conclusion of the district court on this issue.

[8]Strong v. General Electric Co., ____ F.2d ____ (5th Cir. 1970) [No. 29148, December 8, 1970] slip opinion at 8; Rich Products Corp. v. Mitchell Foods, Inc., 357 F.2d 176 (2d Cir. 1960), cert. den. 385 U.S. 821; Bros, Inc. v. W. E. Grace Mfg. Co., 351 F. 2d 208, 212 (5th Cir. 1965), cert. den. 383 U.S. 936; Ballantyne Instruments & Electronics, Inc. v. Wagner, 345 F.2d 671 (6th Cir. 1965), aff'd. per curiam after remand 386 F.2d 789, cert. den. 390 U.S. 1026; Deller's Walker on Patents, § 60 (2d Ed. 1964).

tional ground for holding the 976 patent invalid — that of obviousness.

Section 103 of Title 35 is the statutory basis of the non-obviousness requirement:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This statute was intended as a codification of the judicially adopted requirement of "invention" with special congressional instruction to approach the problem by inquiring into the obviousness of the subject matter sought to be patented.[9] Thus, like "invention", "obviousness" is a word of art incapable of an exact definition appropriate in all circumstances.

> What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference

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[9]Graham v. John Deere Co., 383 U.S. 1, 17 (1966); Hotchkiss v. Greenwood, 52 U.S. (11 How.) 248 (1850).

> as negligence and scienter, and should be amenable to a case-by-case development.[10]

Accordingly, the issue of obviousness is a question of law[11] to be determined after examination of the following factual considerations:

> the scope and content of the prior art. . . .; differences between the prior art and the claims at issue . . . ; and the level of ordinary skill in the pertinent art.[12]

(a) *The Prior Art.* Our examination of the prior art need go no further than a 1965 publication by the University of Florida Agricultural Extension Service.[13] That pamphlet contains a collection of brief descriptions of methods for injecting liquid fertilizer into irrigation lines. One of the methods described is shown in the diagram reproduced in the Appendix as figure

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[10]Graham v. John Deere, 383 U.S. 1, 18 (1966).

[11]Id.; Beckman Instruments, Inc. v. Chemtronics, Inc., 428 F.2d 555 (5th Cir. 1970); Swofford v. B & W, Inc., 395 F.2d 362 (5th Cir. 1968).

[12]Graham v. John Deere Co., 383 U.S. 1, 17 (1966).

[13]See note 7 *supra*. The Harrison publication was not before the Patent Office when the patents in question were issued. The district court found:

> Furthermore, the presumption, under 35 United States Code §282, that a patent is valid is weakened when, as in this case, the most pertinent prior art is not examined by the patent office in deciding to issue the patent. *Nossen and Nossen Laboratories, Inc. v. United States,* 416 F.2d 1362 (Court of Claims, 1969). In this instance, the Harrison Publication which presents a very pertinent account of the prior art was not before the patent office examiners when the decision to issue the process patent was made.

3. This process simply calls for the fertilizer to be pumped from a storage tank into the main discharge line at a point somewhere between the irrigation pump and the sprinklers. Relevant parts of the descriptive text are copied below.[14] Note that the diagram shows a manually operated "cut-off valve" on the injection line between the fertilizer pump and the main discharge line. The author of this circular testified by deposition that this valve served the obvious function of preventing irrigation water from siphoning back into the fertilizer tank when the fertilizer pump was not in operation.

(b) *Appellant's Process.* IOM's patent prescribes an improved process for implementing the prior art described above by making the level of application of fertilizer more easily regulatable and uniform despite fluctuations in the flow of water through the main discharge line.[15] To accomplish this desirable goal, Claim 1 of the patent, set out below, teaches to pressur-

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[14]Deep Well Pumps (Method No. 1): . . . A common method, especially adapted where electric power is available, is to use a small rotary, gear or piston pump to inject the solution into the discharge line. The fertilizer injector pump must be able to deliver a higher pressure than that coming from the main irrigation pumping plant, but at relatively low rates. It may be driven by electric or air cooled motor.

One of the most popular methods, where an auxiliary motor is not desired, is to mount a jack-shaft to the main irrigation power unit. The fertilizer injection pump is then driven by the power-take-off shaft and a separate clutch is installed. Several of these units are now operating in the state. The advantage of such an arrangement is elimination of an auxiliary power unit for the fertilizer injection pump. (p. 4-5).

[15]The patent states, in part:

> This relationship of apparatus and process provides that the resistance provided by the control valve is a

ize the liquid fertilizer, pass it through an "adjustable orifice" that will create an intentional pressure drop, and then to inject the solution into the irrigation system.[16] Claim 2 specifies that the pressure drop is to

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controlling factor to flow and minor variations in pressure, volume, etc. density of the irrigating waters in [the main discharge] line and minor variations in pressure in [that] line do not affect the substantially constant rate of flow of liquid notwithstanding the variations in pressure and volume that occur within the line due to the inherent characteristics of the operation of the pump and the apparatus. Further still, this constant flow from the [fertilizer injection] line to the [main discharge] line provides that there are no oscillations added to the flow pattern of the water through the [main discharge] line such as are caused by an irregular stopping and starting of flow into the [main discharge] line; rather, there is a steady flow and pressure from the [fertilizer injection] line into the [main discharge] line. (Numerical references to patent diagram omitted).

[16]We claim:

1. A process for treating land with liquid fertilizer which comprises the steps of

(a) Pressurizing the liquid fertilizer and bringing it to a first, high pressure level,

(b) Passing the pressurized liquid fertilizer through an adjustable orifice at a predetermined rate and thereby lowering the pressure of said liquid to a second, lower pressure level,

(c) Concurrently raising water from below the ground at a first site and raising its pressure to a water pressure within a range having a maximum lower than the value of said second pressure level, said water pressure of said water within said range being a varying pressure,

(d) Passing the liquid fertilizer at such second, lower, level of pressure into said stream of water at said range of pressure, and mixing the liquid fertilizer and the water, and

(e) Passing the admixture to a liquid distributor located on said land at a distance from said first site and distributing said liquid fertilizer on said land.

be at least 20 pounds per square inch.[17] The final 2 claims specify the pressure variations in the irrigation line and the attributes of portability.

(c) *Difference Between Prior Art and Appellant's Process.* Practically speaking, then, the patent calls for the substitution of an adjustable "throttle valve" for the above discussed cut-off valve, and the conscious manipulation of the relationship of pressures in the injection line on either side of the throttle valve and in the irrigation line itself. As a result, a higher pressure is backed up behind the throttle valve; the fertilizer that seeps through at a lower pressure rate is said therefore to be less sensitive to pressure changes in the main line. Thus, a precise amount of fertilizer may be uniformly injected with a higher degree of certainty; and the perils of the prior art, namely uneven and spotty application of fertilizer, are significantly reduced.

In terms of methodology, the only discernible difference between the patented process and the prior art are embodied in Claims 1(b) and 2; absent these claims the process would have been entirely disclosed by the University of Florida circular. The validity of the process hinges on these two claims. If, as a matter of law, they are inventive additions to the prior art, the patent is valid; if they fall under the obviousness test, the patent falls with them.

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**172. Process as in claim 1 wherein the pressure of said liquid fertilizer is lowered at least 20 pounds per square inch from said first to said second pressure level.**

(d) *Obviousness.* For reasons to be discussed below it is our conclusion that the difference between these claims and the prior art "would have been obvious at the time the invention was made to a person having ordinary skill in the art."[18]

As we perceive appellant's patent, its two principal characteristics are that the flow of fertilizer is (1) precisely regulatable and (2) relatively independent of variations in the flow of water through the main line. The problems solved by these improvements were conspicuous in the prior art. To recognize them was in no way inventive. Once the first need — for a regulatable system — is recognized, the solution reached in the patent — an adjustable orifice — is readily apparent. The second need — for an injection system which is insensitive to the irrigation flow rate — manifestly depends on the interrelationship of pressure levels within the system. This, in turn, would readily suggest that the problem could be solved by experimental manipulation of the pressure levels until a satisfactory relationship of pressures was delivered. We need go no further into detail or speculation to describe the mechanical trial and error process that would logically follow. Manipulation of the relationship of the size and speed of the pump and of the relative size of the various pipe lines to the size of the opening in the throttle valve would inevitably lead to IOM's solution. Simply by using a larger-than-necessary pump and throttling down the adjustable valve, the process of the patent could be duplicated in all of its vital elements by one of ordinary skill in the art.

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[18] 35 U.S.C. § 103; Graham v. John Deere Co., 383 U.S. 1 (1966).

In *Anthony v. Ranco Inc.*,[19] we considered a patent which attempted to combine a newly developed automatic valve with a system to reverse a refrigeration process to create heat. In holding that patent invalid, we used language that is appropriate here:

> In spite of these and other differences which may amount to improvement over valves of the prior art, in sum all that appellant did was to apply a known valve to an analogous use in a known combination or system. Such advance in the art, if advance there was, merely resulted from that type of activity reasonably to be expected of those mechanically skilled in the applicable art.[20]

The process 976 patent is invalid by virtue of its obviousness. We make this determination as a matter of law based on evidence which convinces us beyond a reasonable doubt that the statutory presumption of validity of issued patents should fall.[21]

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[19] 316 F.2d 509 (5th Cir. 1963).

[20] Id at 512. See also Johns-Manville v. Cement Asbestos Products Co., 429 F.2d 1381 (5th Cir. 1970); Swofford v. B & W Inc., 395 F.2d 362 (5th Cir. 1968); National Filters, Inc. v. Research Products Corp., 384 F.2d 516 (5th Cir. 1967); Sisko v. Southern Resin & Fiberglass Corp., 373 F.2d 866 (5th Cir. 1967); Up-Right, Inc. v. Safeway Products, Inc., 364 F.2d 580 (5th Cir. 1966).

[21] See *eg.*, Strong v. General Electric Co., ____ F.2d ____ (5th Cir. 1970) [No. 29148, December 8, 1970] slip opinion at 4.

In support of its contention that the patent is valid, IOM has offered evidence of the felt need for a solution to the problems raised and of the commercial success of appellant's process as a solution to the problems. This evidence is of secondary importance only; it cannot serve to raise appellant's process above the benchmark of patentability. Graham v. John Deere Co., 383 U.S. 1 (1966).

## II

### *The Apparatus 232 Patent*

Appellant also claims infringement of the parent of the 976 patent — an apparatus patent which proffers a detailed method of effectuating the 976 process. Because Norpak does not contest the validity of this patent on appeal we move to consideration of the infringement issue.[22]

Although IOM admits that Norpak is not presently infringing the apparatus 232 patent, it is their contention that Norpak manufactured infringing devices in 1966 which were in use after the issuance of the patent in June of 1967. IOM has submitted affidavits tending to show the following facts: that Norpak purchased and dismantled their device in early April of 1966; that

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[22]Although the validity of apparatus 232 patent is not raised as an issue on this appeal, we are mindful of the criticism that there is a tendency among lower federal courts in infringement suits to dispose of them on the ground of non-infringement without going into the question of the validity of the patent. It has been clearly held that validity is of greater importance than infringement. See footnotes 4 and 5 and particularly Sinclair & Carroll Co., Inc. v. Interchemical Corp., 325 U.S. 327, 330 (1945). Since validity is not an issue, there is no attack on the statutory presumption of validity. 35 U.S.C. § 282; Kardulas v. Florida Mach. Prods. Co., ____ F.2d ____ (5th Cir. 1971) [No. 29514, February 9, 1971]. Based on the record before us strong reasons appear to support the validity of the apparatus 232 patent. See Sterner Lighting, Inc. v. Allied Electrical Supply Co., Inc., 431 F.2d 539 (5th Cir. 1970). The patent specifies a detailed solution to the problem it was intended to solve. Construed narrowly, it appears to represent the synergistic resolution of difficult technical problems not heretofore resolved and therefore "describes a unique nonobvious solution to a problem rather than a general idea, which might well be nonpatentable on obvious grounds." 431 F.2d at 543. We emphasize that under this view the patent can stand only if the language of its claims is limited to the narrowest possible meaning.

Norpak purchased at least a dozen each of several component parts of the IOM device later in the same month; and that IOM's device is useful in normal operation for a two year period. From these facts appellant asks us to infer that their device was copied by Norpak and that it was in use in June of 1967 when the patent was issued. Norpak answers by unrefuted testimony to the effect that the component parts were purchased for experimentation only and were discarded prior to the date that appellant's patent was granted. There is no testimony offered by IOM that infringing devices were ever seen in use.[23]

On these facts the trial court found that appellant's claims were "much too speculative to raise any genuine issue of a material fact." We agree. In these circumstances it was within the court's discretion to determine that there were no facts alleged which met the requirement of showing a genuine issue for trial as provided by Fed. R. Civ. P. 56(e).

AFFIRMED.

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[23] After oral argument on motion for summary judgment, the district court stated:

> At the hearing on December 16, 1969, counsel for plaintiff admitted that the device Defendant presently manufactures does not infringe Plaintiff's apparatus patent.

The district court also found:

> In fact, neither Mr. Stamps nor Mr. Neikirk, co-patentees and officers of Plaintiff Corporation, ever saw an apparatus similar to their own manufactured by Defendant after April, 1966, over one year before issuance of the apparatus patent in June, 1967. (Stamps deposition of October 7, 1969, page 24 and Neikirk deposition of January 24, 1969, pages 182-187). In this regard, the law is well settled that there could be no infringement before a patent is issued. *Coakwell v. United States*, 372 F.2d 508 (Court of Claims, 1967).

## APPENDIX TO THE OPINION OF THE COURT

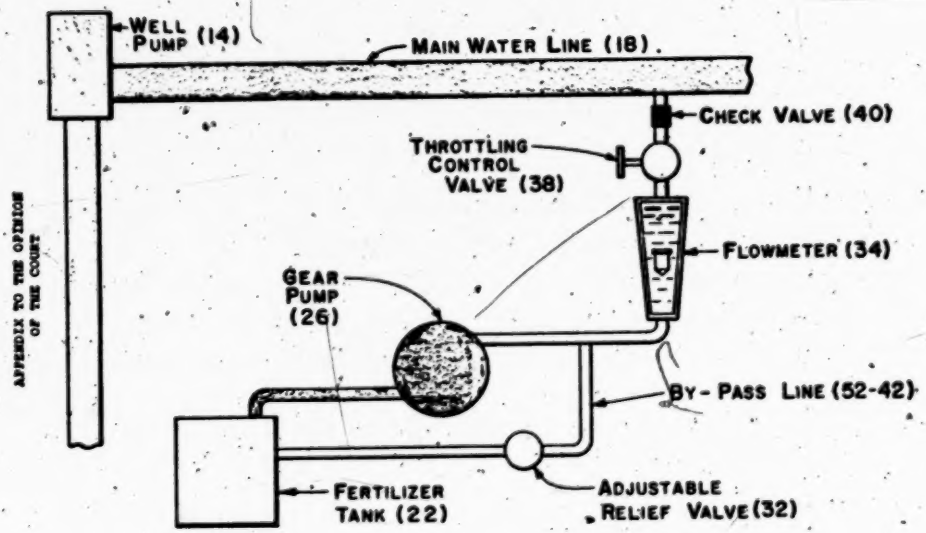



Figure 1. North Plains' schematic representation of Inject-O-Meter's apparatus

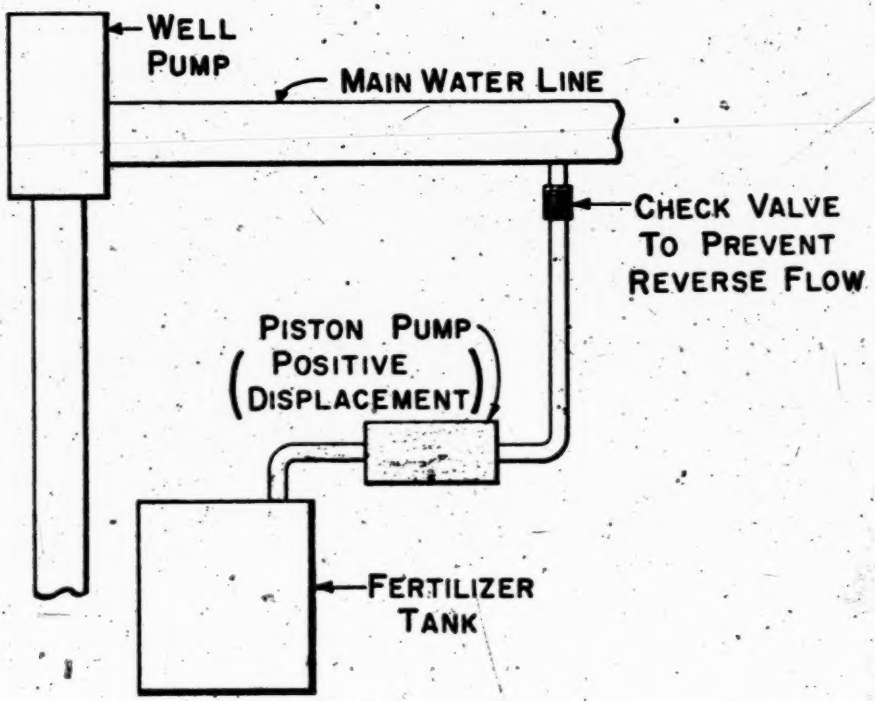



Figure 2: North Plains' schematic representation of their apparatus

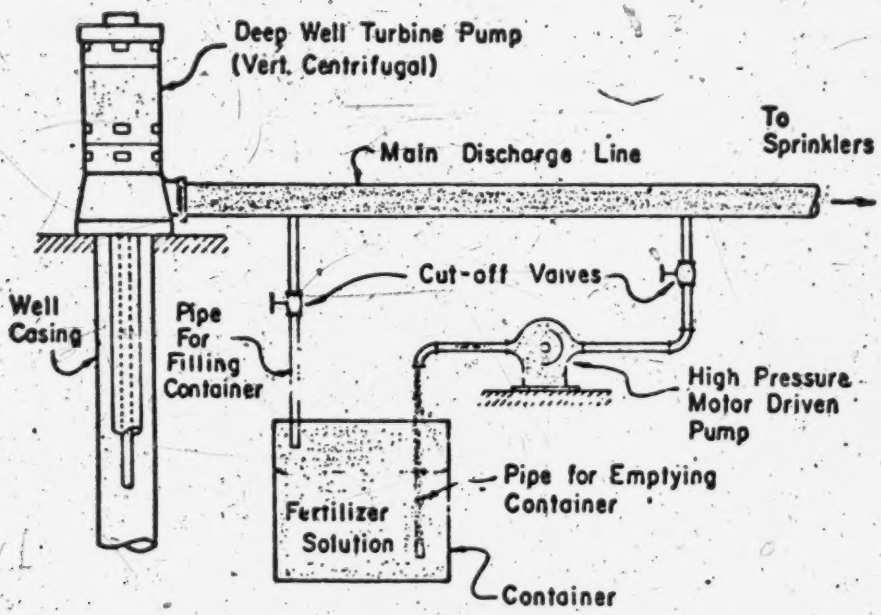



Figure 3. The apparatus disclosed in the prior University of Florida publication

Adm. Office, U.S. Courts—Scofields' Quality Printers, Inc., N. O., La.

APPENDIX D
IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
AMARILLO DIVISION

INJECT-O-METER MANUFACTURING COMPANY, INC., *Plaintiff,*
VS.
NORTH PLAINS FERTILIZER AND CHEMICAL, INC., *Defendant*
CIVIL ACTION NO. 2-522

INJECT-O-METER MANUFACTURING COMPANY, INC., *Plaintiff,*
VS.
NORTH PLAINS FERTILIZER AND CHEMICAL, INC., *Defendant*
CIVIL ACTION NO. 2-606

MEMORANDUM OPINION

Woodward, *District Judge.*

In these actions, which arise under the patent laws of the United States. Plaintiff sues Defendant for infringement of two separate but related patents. Jurisdiction of the parties and subject matter of these disputes resides in the Court under the provisions of 28 United States Code §1338. The two patents involved herein describe a device and a method

that can be utilized to inject chemical fertilizer solutions into a farm irrigation system. In Civil Action No. 2-522, Plaintiff alleges infringement of United States Letters Patent No. 3,326,232 which was issued on June 20, 1967, to Otis C. Stamps and David W. Neikirk for an invention of a fertilizing apparatus entitiled Fertilizer Application and Apparatus Therefor. This patent will be referred to as the "apparatus" patent. In Civil Action No. 2-606. Plaintiff alleges infringement of United States Letters Patent No. 3,375,976, which was issued on April 2, 1968, to Otis C. Stamps and David M. Neikirk for an invention of a process of applying fertilizer through irrigation water which is entitled Fertilizer Application Process. This patent will be referred to as the "process" patent. Plaintiff in these two causes is the assignee of both patents and of all rights of recovery for past infringements. On March 4, 1969, the Court entered an order consolidating the two causes into one action since they involved related patents and alleged infringement by the same Defendant. Upon completion of discovery, Defendant moved for summary judgment in both causes and the Court heard oral argument on the motions on December 16, 1969. After considering the arguments of counsel, the pleadings, answers to interrogatories, depositions, and briefs on file, the Court granted the motions for summary judgment on December 30, 1969, and now files this Memorandum Opinion in connection therewith:

## I. The Apparatus Patent

The apparatus patent discloses a devide for injecting liquid fertilizer into a water line. The apparatus includes a gear pump, a by-pass line extending from the discharge side of the pump to a liquid fertilizer tank, an adjustable pressure relief valve mounted in said by-pass line, a flowmeter connected in the discharge line extending from the pump to the water line, and an adjustable throttle control valve

connected to the outlet side of the flowmeter in the discharge unit. In the patent, the operation of the apparatus is described. The patent also explains that the volume of fertilizer solution which is injected into the water line is controlled by manipulation of the adjustable pressure relief valve and the adjustable throttle control valve.

At the hearing on December 16, 1969, counsel for Plaintiff admitted that the device Defendant presently manufactures does not infringe Plaintiff's apparatus patent. (p. 35, Transcript of Hearing). Defendant's apparatus consists of a proportioning pump-check valve combination device for injecting a liquid fertilizer into a water line. In Defendant's apparatus, the volume of liquid fertilizer which is injected is controlled by the proportioning pump. The apparatus does not employ a by-pass line between the pump discharge and fertilizer tank and also does not include an adjustable throttle control valve in the discharge line extending from the pump to the water line. Although Plaintiff admits that the above described apparatus presently manufactured by Defendant does not infringe Plaintiff's patent, Plaintiff contends that Defendant manufactured devices in 1966 which did infringe the apparatus patent and which were used after the issuance of the patent in June, 1967. Plaintiff argues as follows:

1. That Defendant purchased in early April, 1966, from Plaintiff an apparatus which is described and claimed in the apparatus patent.

2. That Defendant dismantled this purchased device in late April and then, subsequently, purchased 12 flowmeters and 12 gear pumps.

3. That, since Defendant dismantled Plaintiff's apparatus, Defendant must have intended to copy Plaintiff's apparatus and that, since Defendant purchased 12 flowmeters and 12 gear pumps, Defendant must have been acquiring the necessary component parts to manufacture copies of Plaintiff's apparatus.

4. That, since Plaintiff's apparatus can be used in normal operation for over two years, it is reasonable to assume that the devices Defendant allegedly manufactured were in use when the apparatus patent was issued.

5. That, consequently, there was an infringement of the apparatus patent.

Plaintiff's argument presents a very constrained view of the evidence and is not warranted by the record in this case. Although Defendant admits that it purchased one apparatus from Plaintiff in April, 1966, and dismantled the apparatus in an attempt to discover why it would not work, Defendant does not admit or even imply that it ever manufactured a device which was a copy of Plaintiff's apparatus or that it used Plaintiff's apparatus for any purpose other than experimentation. (McNeill deposition of October 7, 1969, pages 4-6, 17-18, and 25). Defendant also admits that it purchased 12 flowmeters and 12 gear pumps but further states that these purchases were likewise used for experimentation and in connection with the device Defendant purchased from Plaintiff. (McNeill deposition of October 7, 1969, pages 16-24). It is simply clear, especially in light of the deposition of Troy McNeill, who is President of Defendant Corporation, that the apparatus purchased from Plaintiff, the flowmeters, and gear pumps, were used only for purposes of experimentation, "to find what would work" in Defendant's operation (McNeill deposition of October 7, 1969, pages 18-19). Defendant found that Plaintiff's apparatus would not meet its needs and consequently dumped everything in the scrap pile. (McNeill deposition of October 7, 1969, pages 19-21). Mr. McNeill further stated that Defendant never sold any pumps except the Hills-McCanna pump which was purchased in 1966, which is still being used by Defendant and which admittedly is not an infringement. (McNeill deposition of October 7, 1969, pages 14 and 17). Examined in its entirety, the deposition of Troy McNeill refutes any inference that Defendant used Plaintiff's ap-

paratus after the issuance of the patent on June 20, 1967. Moreover, there is no evidence in the record before the Court to contradict McNeill's statements. In fact, neither Mr. Stamps nor Mr. Neikirk, co-patentees and officers of Plaintiff Corporation, ever saw an apparatus similar to their own manufactured by Defendant after April, 1966, over one year before issuance of the apparatus patent in June, 1967, (Stamps deposition of October 7, 1969, page 24 and Neikirk deposition of January 24, 1969, pages 182-187). In this regard, the law is (1) well settled that there could be no infringement before a patent is issued. Coakwell v. United States, 372 F.2d 508, 153 USPQ 307 (Court of Claims, 1967).

In the light of all the evidence, it appears to the Court that Plaintiff's claims as to an infringement of its apparatus patent are much too speculative to raise any genuine issue of a material fact; therefore, Defendant's motion for summary judgment with reference to the apparatus infringement claim is granted since no infringement was substantiated.

## II. The Process Patent

The process patent contains the following claims which Plaintiff argues are being infringed by Defendant:

> "1. A process for treating land with liquid fertilizer which comprises the steps of
>
> (a) Pressurizing the liquid fertilizer and bringing it to a first, high, pressure level,
>
> (b) Passing the pressured liquid fertilizer through an adjustable orifice at a predetermined rate and thereby lowering the pressure of said liquid to a second, lower, pressure level,
>
> (c) Concurrently raising water from below the ground at a first site and raising its pressure to a water pressure within a range having maximum lower than the value of said second pressure level, said water pressure of said

water within said range being a varying pressure,

(d) Passing the liquid fertilizer at such second lower, level of pressure into said stream of water at said range of pressure, and mixing the liquid fertilizer and the water, and

(e) Passing the admixture to a liquid distributor located on said land at a distance from said first site and distributing said liquid fertilizer on said land.

"2. Process as in claim 1 wherein the pressure of said liquid fertilizer is lowered at least 20 pounds per square inch from said first to said second pressure level."

Plaintiff's claim of a process infringement is based upon the teaching in the process patent that there should be a deliberate or significant pressure drop through an adjustable orifice before the fertilizer solution goes into the main irrigation line. The pressure drop is essential to control the volume of fertilizer solution which is injected into the water line by the Plaintiff's patented apparatus. Plaintiff observes that Defendant uses a Ladewig Inline Relief Valve with a 20-pound spring and points out that such a valve can operate as both a check valve and as an adjustable orifice. Plaintiff also notes that Defendant's valve can be adjusted to create a pressure drop and therefore alleges Defendant's apparatus practices the process of Plaintiff's patent.

In rebuttal, Defendant argues that it is not, infringing Plaintiff's patent because, Defendant contends, it is practicing the prior art. Defendant asserts that the prior art, as illustrated by a publication written by Professor D. S. Harrison in February, 1965, and entitled "Injection of Liquid Fertilizer Materials Into Irrigation Systems", discloses a method used by Defendant. Since, Defendant concludes, it is merely following a process well known more than one year before Plaintiff's application for patent was filed, there can be no infringement under the authority of such decisions as Eastman Oil Well Survey Co. v. Sperry-Sun Well Surveying

Co., 131 F.2d 884, 56 USPQ 5 (5th Cir. 1942).

As Defendant observes, the Harrison publication clearly discloses the use of a piston type or proportioning pump-cut off valve combination apparatus, similar to Defendant's device, for injecting a liquid fertilizer solution into a water line. The cut-off valve which Harrison discloses is a manually actuated valve while Defendant's spring-pressed check valve is actuated automatically. However, the manually operated valve described in the Harrison publication has the same function and purpose as the automatically operated check valve in Defendant's apparatus. When the pump is injecting fertilizer solution into the irrigation line, the Harrison valve and Defendant's check valve are in an open position and operate identically to allow flow into the irrigation line. Neither Harrison's nor Defendant's valve functions to control the volume of the chemical fertilizer being injected into the irrigation line because the volume is controlled solely by the positive displacement piston pump. When the pump operation is halted, both valves continue to function identically by preventing a reverse flow through the discharge line and a siphoning flow into the water line. Furthermore, neither valve operates to perform any other function, such as causing a significant pressure drop in the discharge line. As Professor Harrison observed in his deposition, the pressure drop in the discharge line should be insignificant and, to the best of his knowledge, the pressure drop in Defendant's device was insignificant. (Harrison deposition of April 2, 1969, pages 51, 61-62).

Although there is no need to create a significant pressure drop in Defendant's apparatus since the flow is controlled by the piston pump, there is a need to create a significant pressure drop in Plaintiff's apparatus because the gear pump shown in the patent cannot, without more, satisfactorily regulate flow. (Stamps deposition of October 7, 1969, pages 28-30). To control volume in Plaintiff's apparatus, there must

be an adjustable pressure relief valve and an adjustable throttle control valve which can operate to cause a pressure drop. Consequently, contrary to Plaintiff's allegations. Defendant's check valve is not the functional equivalent of Plaintiff's pressure relief valve or throttle control valve. Rather, Defendant's check valve operates as disclosed and described in the prior art: to prevent a reverse flow through the discharge line or siphoning flow into the water line.

In the light of all the evidence, it therefore appears to the Court that Plaintiff's claims as to an infringement of its process patent do not raise any genuine issues of a material fact, as it is uncontradicted that Defendant is doing only what Professor Harrison described in February, 1965. Accordingly, there can be no infringement of Plaintiff's process patent and Defendant's motion for summary judgment must be granted.

## III. Invalidity of the Process Patent

[2] Since the Court has determined that Defendant has not infringed Plaintiff's patents, it would appear unnecessary for the Court to consider whether Plaintiff's process patent is invalid. However, a review of the evidence indicates that there is a substantial question as to the validity of the process patent. Furthermore, the presumption, under 35 United States Code 282, that a patent is valid is weakened when, as in this case, the most pertinent prior art is not examined by the Patent Office in deciding to issue the patent. Nossen and Nossen Laboratories, Inc. v. United States, 416 F.2d 1362, 163 USPQ 721 (Court of Claims, 1969). In this instance, the Harrison publication which presents a very pertinent account of the prior art was not before the Patent Office examiners when the decision to issue the process [3] patent was made. Therefore the Court is of the opinion that the validity of the process patent must be examined at this time.

Congress has stated in 35 United States Code §102 that a person should be entitled to a patent unless:

> "(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States ."

In this case, Plaintiff's application for its process patent was filed on April 19, 1967. Each of the claims of the process patent, quoted above, teach that there should be a deliberate pressure drop in fertilizer injection apparatus before the chemical solution is injected into a water line. Professor Harrison's publication, which was printed in February, 1965, over two years before Plaintiff filed its application for the process patent, also teaches the art of a pressure drop. He writes, at page 6 of his article:

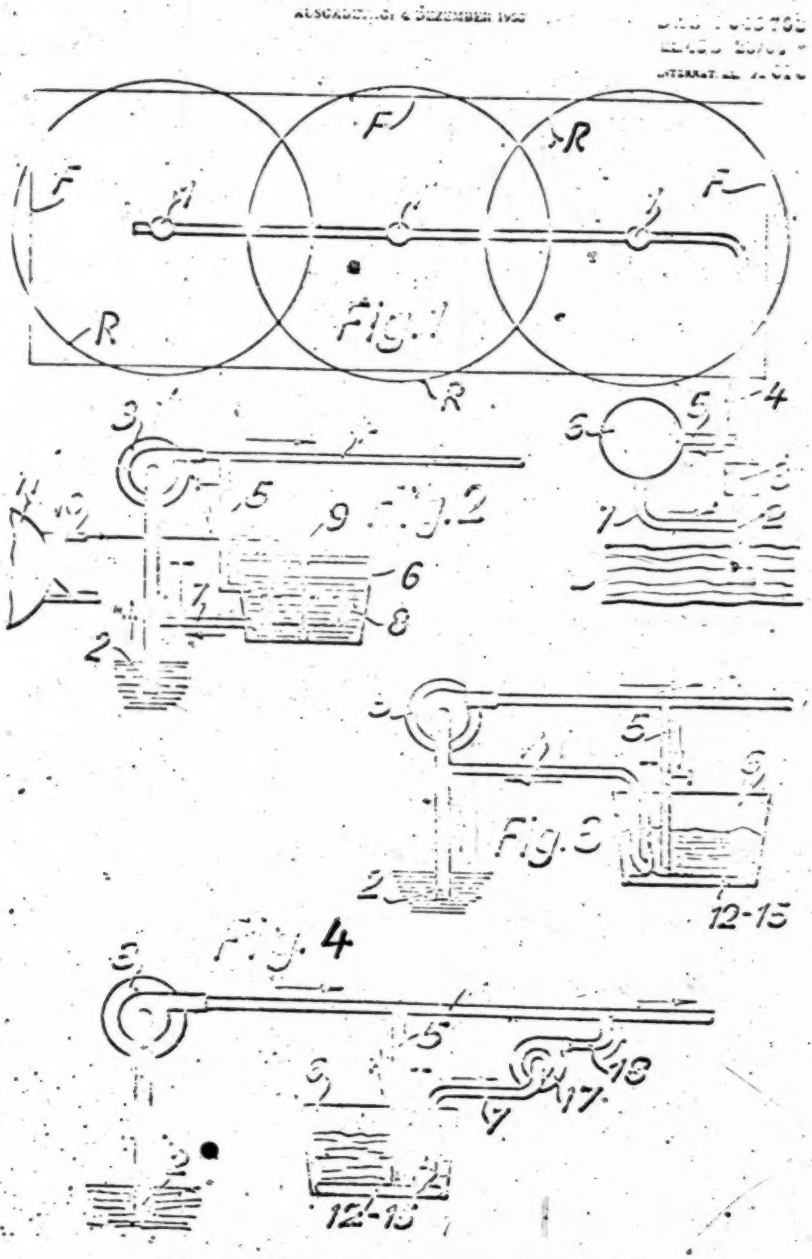
> "Commercial Units Available: At least three companies manufacture injection units which introduce fertilizer directly into the irrigation discharge line. These units, complete with tank, utilize a pressure difference in the line — usually between couplers, around elbows, at a reducer, or a special venturi — to force the fertilizer solution into the mainline discharge pipe."

Plaintiff's process patent talks about a "pressure drop" and the Harrison publication talks about a "pressure difference." As Defendant states in its "Reply to Plaintiff's Objection to Motion for Summary Judgment," a pressure drop is the same as a pressure differential. Defendant also points out that, in Figure 1 on page 4 of the Harrison publication, an adjustable "cut-off" valve between a fertilizer container and the suction side of a centrifugal pump is shown. The description states that "A" valve is needed in this line to adjust intake rate ." Defendant properly concluded that this means that the valve is adjusted to vary the pressure drop and control the rate of flow.

From these examples alone, the Court is of the opinion that Plaintiff's process patent is invalid under 35 U.S.C.§102 (b) because its method was taught at least one year prior by the Harrison publication. As the Supreme Court has recently observed, there should be no restriction of free access to materials already available to the public. Anderson's — Black Rock, Inc. v. Pavement Salvage Co., Inc., 38 Law Week 4024, 163 USPQ 673 (1969). Therefore, under the circumstances, the Court declares invalid Plaintiff's process patent, entitled Fertilizer Application Process, United States Letters Patent No. 3,375,976.

Judgment has been entered accordingly.

# APPENDIX E




Figures of German Patent 1045703

# APPENDIX F

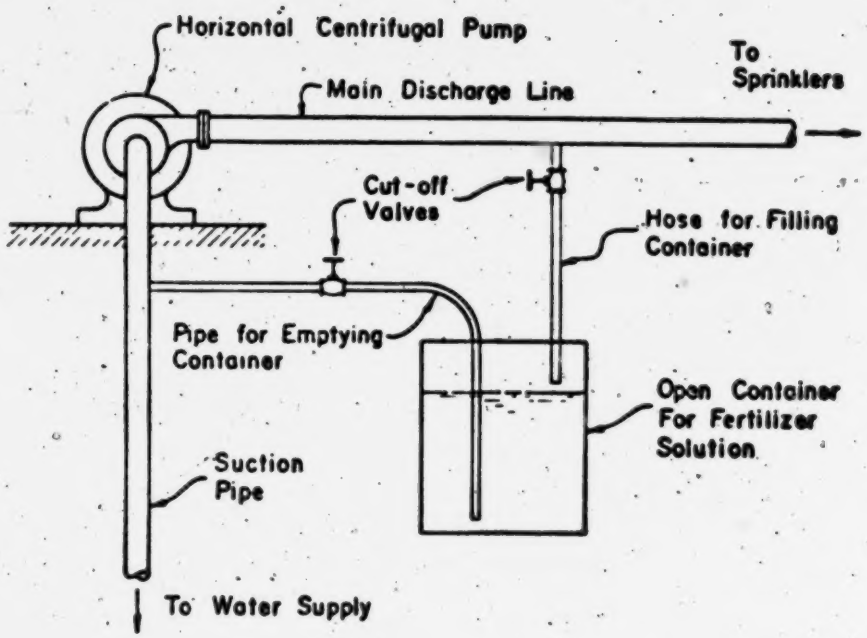



**Fig. 1.—Equipment and arrangement necessary for a centrifugal pump.**

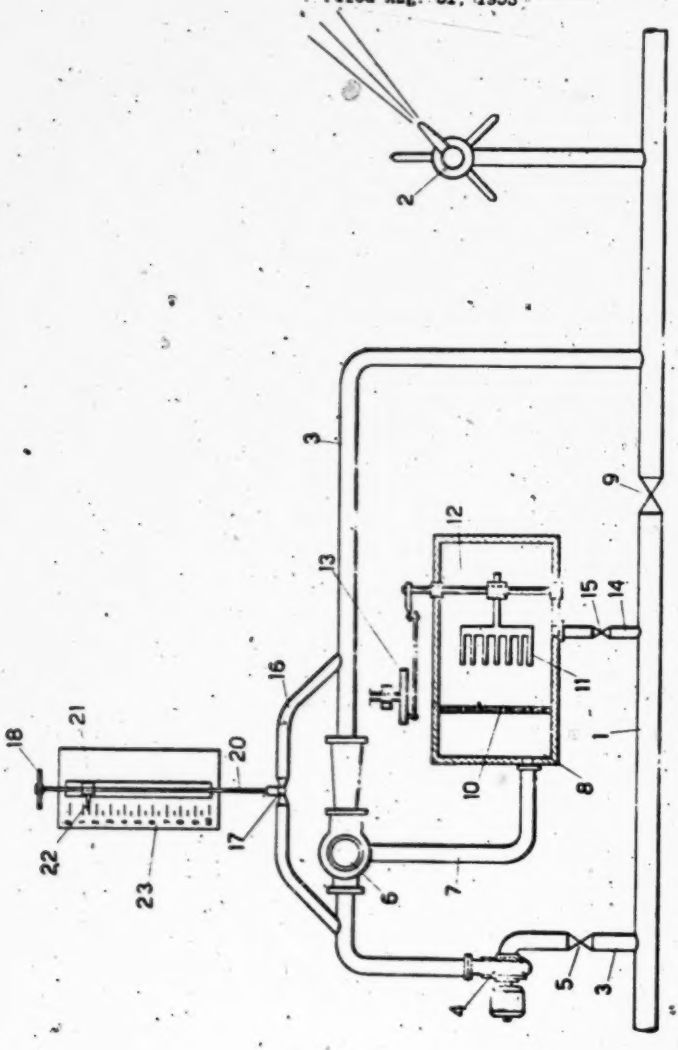
Harrison Circular 276, Figure 1

# APPENDIX G

July 31, 1956 G. FRIEDMANN 2,757,047

PLANT FOR THE DISTRIBUTION OF FERTILIZING LIQUOR

Filed Aug. 31, 1953




INVENTOR.
G. Friedmann
BY
Glascock Downing & Seebold
ATTYS.

United States Patent Office 2,757,047 Patented July 31, 1956



2,757,047

# PLANT FOR THE DISTRIBUTION OF FERTILIZING LIQUOR

Giovanni Friedmann, Milan, Italy

Application August 31, 1953, Serial No. 377,653
Claims priority, application Italy April 18, 1953
4 Claims. (Cl. 299—84)

In plants for the irrigation of soils with diluted solution of natural manure, it is known to employ an injector in order to obtain said solution by introducing directly into the water piping the needed quantity of drippings and of liquid manure obtained by diluting dung in water.

The simplest means of dosing such solutions would be adjusting the quantity of liquid manure sucked by the injector, by operating a valve placed in the piping through which the liquids are sucked.

However, in practice it is impractical to use such a valve, owing to the character of liquid manure, which is very dense and often carries along with it fragments of straw or the like, whereby the valve is easily clogged.

It is necessary therefore to adjust the quantity of flow of water, which in passing through the injector causes therein the desired aspiration in the pipe for liquid manure, said aspiration being a function of the quantity of water delivered through the injector. It would be sufficient, therefore, to provide a valve adapted to throttle the delivery of water before the injector or the delivery of the solution after the injector.

This solution however offers another inconvenience, because the irrigating and fertilizing solution is distributed on the soil by means of nozzles for spray irrigation, operation of which is influenced by the variations of pressure in the feed piping.

In order to obviate also this inconvenience, the plant according to the invention, which comprises a piping that feeds one or more spray nozzles and on which there is connected an injector whose aspiration pipe is connected with a tank containing the drippings or liquid dung ob-

tained by diluting manure, is characterized by a branch pipe arranged in parallel on the injector, that is, in such a way as to bypass it, a throttling valve is provided in said pipe, connected to a device for indicating the concentration of the solution, as a function of the position of said valve.

To make the invention more fully clear, the accompanying drawing represents diagrammatically a plant having the aforesaid characteristic, merely by way of example.

In the drawing, 1 indicates a main piping which leads to one or more irrigating devices indicated at 2. From pipe 1 a pipe 3 branches off to bypass or jump throttling valve 9 in the main piping. A pump 4, a valve 5 and an injector 6, whose suction pipe 7 connects to a tank 8 are mounted between the two points of connection of the pipe 3 to the main piping 1, on the down stream side of valve 9 which is adapted to throttle or even to break the flow of water in the piping 1.

The tank 8 is divided into two parts by a grid baffle



10 and contains an agitating device of any type, which in the drawing is indicated as comprising a fork 11 made to oscillate about a pin 12 by any driving device 13.

Into the section of the tank where there is the agitator, it is possible to introduce water from the pipe 14 connected upstream of valve 9 in the piping 1. Pipe 14 is provided with a valve 15. The water introduced into the tank 8 by the pipe 14 is mixed with the dung which is introduced thereinto and the liquid dung formed passes through the grid 10 and is sucked by the pipe 7.

A bypass pipe 16 is connected with the pipe 3 before and after the injector 6 and is provided with a valve 17 so that if this is open, part of the water circulating in the pipe 3 can pass through the pipe 16 without passing through the injector 6. The valve 17 is governed by a small handwheel 18 connected to the stem of the valve by means of a rod 20 having a threaded portion of very long pitch, on which is provided a travelling nut 21 carrying an index 22. By turning the handwheel 18 to control the valve, the index 22 is thus displaced along the scale 23.

The plant hereinbefore described feeds water to the irrigators 2 with a pressure depending on the elastic pressure existing in the piping 1 and which may be diminished if desired by throttling the valve 9. If it is wished to deliver to the irrigators 2 a diluted fertilizer solution, one opens the valve 5 so that part of the water deviates through pipe 3 and sucks a certain quantity of liquid

manure from the pipe 7. The quantity of water made to deviate into pipe 3 can be adjusted by shutting more or less the valve 9 which may even be shut totally, in which case all of the water passes through the pipe 3.

The quantity of liquid manure sucked and mixed with the water by the injector 6 is a function of the water delivery passing through said injector, but it will be easily understood that sufficiently accurate adjustment of said quantity cannot be obtained by means of a throttling of valve 9, because this is of considerable dimensions and is not adapted for precision adjustment; moreover in many cases it has to be totally shut and the pump 4 has to be actuated to obtain through the injector 6 the sufficient delivery, which often the pressure existing in piping 1 cannot provide.

The adjustment of delivery by way of the injector 6 is effected, therefore, by opening more or less the valve 17 that is by diminishing more or less the quantity of water that passes through the injector 6. This diminution of delivery through the injector does not involve any diminution of delivery to the irrigators 2, but, on the contrary, a slight increase of said delivery. On the scale 23 the graduation may be in figures representing the concentration of the solution thus obtained.

I claim:

1. In an irrigation system of the type described, including a main water supply pipe and a throttling valve in said main water supply, means for adding liquid manure to the irrigation water comprising a primary bypass around said throttling valve, an ejector in said bypass taking suction from a source of liquid manure, and a valve controlled secondary bypass around said injector.

2. The device of claim 1, in which a booster pump is provided in the primary bypass to increase the pressure to the injector.

3. The device of claim 2 in which the valve in said





valve controlled secondary bypass is calibrated whereby the amount of liquid manure introduced into the irrigation water may be regulated.

4. The device of claim 2 in which the source of liquid manure comprises a tank divided into two separate compartments by a grid, one of said compartments being provided with an agitating device to stir up solid manure and water placed therein, the suction pipe from said injector being connected to the other of said compartments, and a valved water supply pipe to furnish water to said

tank from the upstream side of the throttling valve in said main water supply pipe.

4

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